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REPORT NO. 11

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Cotton Fiber and Processing Test Results

CROP of

1974



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 January 3, 1975

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1973, USDA, AMS, Cotton Division, May 1974.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1974

Discussion of Test Results

Cotton Division laboratories of the Agricultural Marketing Service, USDA, report cotton fibers tested from the Southwest short staple samples, to date, are less uniform and finer than through the same period a year ago. Shirley Analyzer and picker and card waste are higher than a year ago. Yarns spun from these samples show lower appearance grades. Yarn imperfections are higher.

Averages for all medium staple samples tested through December 27 show fibers to be less uniform and finer than a year ago. Picker and card waste is higher. Yarn imperfections are slightly fewer than a year ago.

Medium staple samples tested from the Southeast show finer fiber than last season at this time. Picker and card waste is higher. Yarn imperfections are slightly fewer.

South Central medium staple samples tested, to date, show finer and slightly stronger fiber strength at 1/8" gage test than last season. Picker and card waste is higher. Yarns spun from these samples show stronger skein strength than a year ago.

Medium staple samples from the Southwest show fibers to be finer and stronger than last season. Picker and card waste is higher compared to a year ago. Yarns spun from these samples show lower appearance grades, while yarn imperfections are slightly fewer than a year ago.

Medium staple samples from the West show fibers to be shorter and fiber strength weaker at both zero and 1/8" gage tests than a year ago. Picker and card waste is higher this season. Yarn imperfections are fewer than last season.

Averages for all long staple samples tested show fibers to be finer than a year ago at this time. Yarns spun from these samples show lower appearance grades for both carded and combed yarns. Yarn imperfections were higher than a year ago.

No additional long staple samples were received from either the Southeast or the South Central areas during this report period.

Long staple samples tested from the West showed weaker fiber strength at 1/8" gage tests than a year ago. Yarns spun from these samples show both carded and combed yarn strength to be weaker. Yarn imperfections were higher than a year ago for carded yarns.

Extra long staple, American Pima, samples from the West show finer and slightly weaker fiber at 1/8" gage tests than a year ago. Yarns spun from these samples show lower appearance grades than last season at this time.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 27, 1974 1/

Staple group Area, and Crop year	Fiber test results										Processing test results				
	Lots tested	Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.			
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appear- ance	Imperf- ections				
No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	Yarn No.				
<u>Short Staple:</u>															
Southwest															
1973	49	.97	46	4.5	84	21	3.3	6.3	92	110	17	42			
1974	29	.96	44	4.0	85	21	3.9	7.1	90	93	25	41			
<u>Medium Staple:</u>															
Southeast															
1973	50	1.08	46	4.6	82	22	3.6	6.0	102	106	21	61			
1974	48	1.09	45	4.3	81	22	3.4	6.5	102	104	19	61			
South Central															
1973	159	1.10	45	4.5	82	22	3.1	5.8	101	107	19	61			
1974	122	1.10	44	4.1	83	23	3.1	6.3	105	103	18	63			
Southwest															
1973	42	1.07	45	4.3	82	22	2.9	5.7	98	99	24	57			
1974	40	1.07	44	4.1	84	22	3.1	6.3	101	89	22	58			
West															
1973	56	1.13	46	4.5	94	26	2.3	5.4	119	103	18	69			
1974	66	1.11	46	4.5	92	25	2.5	5.9	117	103	16	67			
U. S. Average															
1973	307	1.10	46	4.5	84	23	3.0	5.7	104	105	20	62			
1974	276	1.10	44	4.2	85	23	3.0	6.3	107	101	18	63			
Significant dif- ference <u>2/</u>		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3			

1/ Based on a limited number of samples of modal quality2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 27, 1974
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								SPY
		Length		Mike	Strength Zero gage	SA Non- lint	P&C Waste	Comber Waste	Yarn Quality				Imprfctns card comb			
		Span	Unif						Strength carded	Lbs. carded	Indx carded	Appearance combed			Indx combed	
Long Staple:																
Southeast																
1973	16	1.12	45	4.6	82	23	3.9	8.7	16.9	104	120	117	124	15	7	66
1974	14	1.15	43	4.0	82	23	3.8	8.5	17.3	105	123	105	113	20	8	67
South Central																
1973	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	127	19	8	64
1974	6	1.15	44	4.0	85	23	4.0	8.8	18.0	105	125	102	113	19	8	65
West																
1973	11	1.16	45	3.8	92	27	2.4	7.2	14.9	136	152	99	109	18	10	92
1974	10	1.16	45	3.7	92	26	2.6	7.1	14.9	128	148	95	106	21	10	90
U. S. Average																
1973	33	1.14	45	4.3	86	24	3.4	8.2	16.3	115	132	111	120	16	8	74
1974	30	1.15	44	3.9	86	24	3.5	8.1	16.6	113	132	101	111	20	9	74
Extra Long Staple:																
West																
1973	12	1.46	31	3.8	100	33	3.1	7.7	17.9		66		123		1	
1974	11	1.45	31	3.6	100	32	2.7	7.5	17.5		63		110		2	
Significant Difference 2/																
0.02 2 0.2 2 1 0.5 0.5 0.5 4(22s) 4(22s) 5 5 2 2 3																

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1974

Production Area, Classification & Sample Number				Fiber Test Results						Processing Test Results - Carded Yarns													
No	Grade	Name & Code	Stple 32s	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns			Spin. Potent-ial
				2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel		8s or 74 tx	22sor 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	
SOUTHWEST																							
AREA																							
CENTRAL TEXAS																							
BYERS																							
1	LM	51	30	0.97	46	4.5	84	22	6.7	3.9	3	3	3	7.2	306	96	6.9	6.2	130	110	32	17	44
NORTHWEST TEXAS																							
ANSON																							
1	SLM LT SP	42	31	0.98	44	4.5	80	21	7.0	2.2	4	4	4	6.1	298	94	7.1	6.6	120	90	32	20	45
BURKBURNETT																							
2	SLM LT SP	42	31	0.99	44	4.4	90	22	5.8	3.7	4	3	4	6.5	275	82	6.5	5.7	120	90	42	23	33
HART																							
1	LM LT SP	52	32	0.96	43	2.6	80	22	6.8	6.4	2	4	2	9.1	336	101	8.6	7.5	100	70	98	58	46
PLAINVIEW																							
1	SLM LT SP	42	31	0.96	42	2.7	78	20	7.0	4.0	2	4	2	7.1	324	100	8.6	7.4	100	80	59	39	46
RALLS																							
1	LM LT SP	52	31	0.95	42	3.0	77	20	7.4	6.9	3	3	3	7.9	308	96	8.2	7.0	110	70	60	41	45
2	LM	51	31	0.98	44	2.8	79	22	6.4	6.2	2	3	3	8.1	328	103	8.2	7.6	100	70	61	42	51
RULE																							
1	SLM LT SP	42	32 1/2	1.01	43	4.6	83	21	5.5	3.4	4	4	4	7.2	294	92	7.0	6.2	120	110	26	21	42
SEAGRAVES																							
1	LM	51	30	0.93	46	3.7	78	19	6.1	3.2	2	3	3	5.6	301	89	7.5	6.8	120	90	35	24	40
SNYDER																							
1	SLM LT SP	42	31	1.00	43	3.9	87	21	5.6	3.0	4	4	4	6.5	313	98	7.2	6.2	120	100	43	23	43
TULIA																							
1	SLM LT SP	42	31	0.94	44	3.1	84	22	6.4	4.5	2	4	4	7.6	311	94	8.0	7.2	110	70	46	32	42
2	SLM LT SP	42	31	0.94	46	3.1	81	21	6.6	5.8	2	4	4	8.4	326	100	8.3	7.1	110	90	39	29	47
OKLAHOMA																							
CARNEGIE																							
1	SLM	41	32	1.01	44	4.5	82	21	6.6	3.1	2	3	3	6.5	312	98	7.6	6.7	120	90	45	33	46
DAVIDSON																							
2	SLM	41	32	1.02	45	4.4	83	21	6.9	3.0	2	3	3	6.0	315	97	8.0	6.6	130	100	34	20	45
TERRAL																							
1	SLM LT SP	42	30	0.99	43	4.7	88	22	5.4	3.3	4	3	4	7.3	273	83	6.0	5.4	120	110	35	21	34

1 Reduced from 41 because of bark

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1974

Production Area, Classification &				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number		Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8" Gage	S.A. Non- Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial		
No	Grade Name & Code	Stple	2.5% span		In	Pct		Zero Gage	1/8" Gage	Pct	Pct		Gra	Yel	Lbs	Lbs	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx	50s or 12 tx
SOUTHEAST AREA																							
ALABAMA SECTION																							
3 SLM	41	34	1.08	43	3.4	78	21	6.7	4.0	2	3	6.4	105	35	7.1	4.8	100	70	20	17	68		
TYLER																							
3 LM	51	35	1.09	43	4.1	78	21	6.1	4.2	4	2	7.2	96	33	5.9	4.2	100	80	24	17	60		
SOUTH CENTRAL AREA																							
ARKANSAS																							
4 LM	51	35	1.11	43	3.5	81	21	7.5	5.0	2	2	7.2	107	37	7.2	4.9	90	70	20	17	69		
TYRONZA																							
3 SLM LT SP	42	35	1.10	43	3.7	80	22	6.8	3.8	3	3	6.6	105	35	6.8	4.8	90	70	28	20	60		
MISSISSIPPI																							
3 SLM	41	36	1.11	44	3.9	81	23	7.1	2.5	1	2	6.1	114	39	7.1	5.2	100	80	15	10	69		
CLARKSDALE																							
3 SLM LT SP	42	35	1.07	44	3.7	83	21	6.0	3.9	3	2	7.1	100	33	6.5	4.3	100	90	18	17	58		
INDIANOLA																							
3 LM	51	34	1.03	43	4.8	87	23	5.3	3.1	4	2	9.4	90	30	5.5	4.0	100	80	23	16	47		
LAKE CORMORANT																							
3 SLM LT SP	42	36	1.12	42	3.4	81	23	7.2	3.1	2	3	6.4	116	40	7.5	5.3	100	90	17	14	72		
OLIVE BRANCH																							
3 SLM	41	35	1.09	43	3.4	80	22	6.4	3.3	1	2	5.9	111	38	7.3	5.2	100	90	20	18	65		
SCOTT																							
3 LM	51	35	1.12	41	3.5	77	22	7.0	3.2	3	1	6.2	108	38	7.2	5.1	90	70	31	23	71		

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1974--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade	Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial		
				2.5% span	Unif.		Zero Gage	Mpsi			Pct	Pct		Gra	Yel	22s or 27 tx	Lbs	Pct	22s or 27 tx	12 tx	22s or 27 tx		12 tx	22s or 27 tx
SOUTH CENTRAL AREA--(Continued)																								
MISSOURI																								
PORTAGEVILLE																								
3	SLM	41	35	1.09	43	3.8	80	21	6.9	2.0	2	3	6.1		94 PERCENT	99	33	6.6	4.9	100	70	16	12	57
SENATH																								
3	SLM	41	35	1.10	42	3.2	79	21	7.4	2.1	2	3	5.1		80 PERCENT	106	36	7.6	5.1	100	70	27	22	62
TENNESSEE																								
BRADEN																								
3	SLM	41	35	1.10	44	3.7	82	24	7.2	2.6	2	2	6.1		95 PERCENT	112	37	7.6	5.1	110	90	14	13	69
SOUTHWEST AREA																								
NORTHWEST TEXAS																								
LUBBOCK																								
2	LM	51 1/2	35	1.13	42	3.5	84	24	6.2	3.9	2	3	7.5		100 PERCENT 1/	108	38	6.1	4.6	70	60	32	25	52
LUBBOCK																								
2	LM	51	35	1.12	41	3.2	83	22	6.8	4.5	2	3	7.5		100 PERCENT 1/	108	38	7.4	4.9	70	60	46	31	61
OLTON																								
1	LM	51 1/2	34	1.05	43	2.9	84	25	6.8	3.4	2	3	8.0		85 PERCENT	120	43	7.1	5.4	80	60	35	27	71
2	LM	51	34	1.07	42	2.8	85	23	6.8	5.0	2	3	7.3			112	37	7.2	4.9	70	60	37	37	67
ROPSVILLE																								
1	SLM	41	33	1.04	42	2.8	81	22	7.0	3.1	1	3	5.5		100 PERCENT	109	36	7.4	5.0	80	60	30	22	64
2	SLM	41	33	1.06	40	2.7	82	22	6.6	3.6	1	3	6.2			105	35	7.0	5.2	70	60	31	30	59
VERNON																								
1	SLM LT SP	42	31	1.00	42	4.5	87	22	6.6	2.7	2	3	7.2		100 PERCENT	803/	23	5.4	4.0	90	80	31	25	36
VERNON																								
1	SLM LT SP	42	32	1.05	42	4.3	89	24	6.2	3.0	3	3	7.3		100 PERCENT	98	32	5.9	4.2	100	90	20	17	52

1/ 100 percent selected for tests, less than 100 percent in the area

2/ Reduced from 41 because of bark

3/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1974--(Continued)

Production Area, Classification &				Fiber Test Results										Processing Test Results - Carded Yarns											
Sample Number		Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8" Gage	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potential					
No	Grade Name & Code	Stple 32s	2.5% span		In	Pct			Rdg	Mpsi		G/tex	Pct	Gra	Yel	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx	50s or 12 tx	No	No	
WEST AREA																						No	No		
ARIZONA BOWIE																						No	No		
3 SLM	41 35	1.08	44	4.6	77	20	7.2	2.2	1	3	5.9	94 PERCENT	99	32	6.8	4.7	110	90	18	16	48				
BUCKEYE																						No	No		
3 SLM	41 35	1.14	47	5.0	82	24	5.7	4.1	2	2	7.0	95 PERCENT	104	35	5.8	4.4	110	80	18	17	55				
CASA GRANDE																						No	No		
3 SLM	41 35	1.12	45	4.2	80	22	6.8	2.8	2	2	6.5	75 PERCENT	105	36	6.4	4.6	100	90	22	19	57				
SOMERTON																						No	No		
3 SLM	41 35	1.08	44	4.7	82	22	6.2	2.7	1	3	7.2	92 PERCENT	102	34	6.2	4.3	110	80	19	14	56				
CALIFORNIA CHOWCHILLA																						No	No		
3 SLM	41 36	1.17	47	4.1	88	26	5.6	2.9	1	2	6.1	100 PERCENT	126	45	6.3	4.6	100	80	20	14	75				
HANFORD																						No	No		
3 SLM	41 35	1.09	47	4.4	94	24	5.0	2.2	2	3	5.9	99 PERCENT	118	41	5.3	4.1	110	90	11	7	65				
LOS BANDS																						No	No		
3 SLM	41 36	1.13	48	4.4	97	26	5.4	2.7	2	3	6.1	100 PERCENT	126	45	5.7	4.4	100	90	19	14	73				
SAN JOAQUIN																						No	No		
3 SLM	41 36	1.14	48	4.0	93	27	5.4	3.4	2	3	6.9	100 PERCENT	131	48	6.2	4.6	100	80	16	13	78				
TRANQUILITY																						No	No		
3 SLM PLUS	40 36	1.16	49	4.4	95	28	5.2	2.4	1	3	5.8	100 PERCENT	137	51	6.0	4.7	110	90	13	9	78				
VISALIA																						No	No		
3 SLM	41 35	1.11	47	3.9	91	26	5.5	2.0	2	2	5.3	70 PERCENT	125	45	6.2	4.8	100	90	12	9	73				
WESTMORLAND																						No	No		
3 MID	31 35	1.09	45	5.1	88	24	5.8	1.2	0	2	5.7	100 PERCENT	106	33	5.8	4.1	110	90	12	8	54				

1/ Cotton stuck to processing rolls

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1974

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade	Stple	Name & Code	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Comber Waste	Strength 22s or 27 tx	Elongation 50s or 12 tx		Appearance Index 22s or 27 tx	Imprfect'ns 22s or 27 tx		Spin. Potent- ial 50s or 12 tx				
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel			Pct	Pct		Lbs	Pct		Lbs	Pct	No	No
32s				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No			

WEST

AREA

NEW MEXICO
ANIMAS

ACALA 1517-V

75 PERCENT

41	37	1.15	44	3.2	94	26	94	6.0	3.8	1	2	6.7	129	45	6.3	4.8	100	90	20	20	88
3	SLM											* 16.0	149	54	7.0	5.4	110	90	8	6	

* Comber Waste and Combed Yarn Data

Table 5--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1974

Production Area, Classification				Fiber Test Results										Processing Test Results - Combed Yarns									
Sample Number		Array Length		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfct's				
		UQL	CV		Zero Gage	1/8" Gage			Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx					
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	No	No	Pct	Pct	Lbs	Pct	Pct	No	No	No	No			

* 100 percent selected for tests, less than 100 percent in the area

